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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,481	02/14/2004	Scott T. Weisgerber	GP-304122	5535
7590 08/10/2005			EXAMINER	
Leslie Hodges General Motors Corporation, Legal Staff Mail Code: 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000			GRANT, ROBERT J	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/779,481

Applicant(s)

WEISGERBER ET AL.

Examiner

Robert Grant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2004.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) 5 and 6 is/are allowed.
 6) ☒ Claim(s) 1-3 and 7-9 is/are rejected.
 7) ☒ Claim(s) 4 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 14 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
 5) ☐ Notice of Informal Patent Application (PTO-152)
 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Koo (US 6,841,972).

As to Claim 1, Koo discloses a method for diagnosing a critical state of charge condition of an energy storage system, comprising: obtaining power flow and state of charge for the energy storage system (Column 5, lines 17-22); determining if the combination of power flow and state of charge meet predetermined criteria (Column 5, lines 46-53); if the predetermined criteria are met, indicating a critical state of charge

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condition if the state of charge is outside of a predetermined region of state of charge for a predetermined duration (Column 5, lines 54-60).

As to Claim 2, which is dependent upon claim 1, Koo further discloses wherein the predetermined criteria are characterized by increasingly less tolerance for charge power flow at increasingly higher state of charge (Column 7, lines 13-17).

As to Claim 3, which is dependent upon claim 1, Koo further discloses wherein the predetermined criteria are characterized by increasingly less tolerance for discharge power flow at increasingly lower state of charge (Column 6, lines 14-19).

As to Claim 7, Koo discloses a method for diagnosing a critical state of charge condition of an energy storage system, comprising: within a predefined extreme range of state of charge, providing a plurality of state of charge thresholds and a corresponding plurality of unique increment values, said increment values being larger the further away the corresponding state of charge threshold is from a predefined non-extreme range of state of charge (Figure 4, as can be seen, 52.5% is the mid point, and there is a 12.5% range to the next level, and then a 15% range to the following levels); periodically obtaining state of charge (Column 5, lines 9-12); for so long as state of charge is outside of the predefined range of non-extreme state of charge comparing the state of charge to the state of charge thresholds and selecting one of said increments in accord with the comparison (Column 5, lines 32-33); incrementing a counter with the selected

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increment (Column 5, lines 54-60); comparing the counter to a counter limit (Figure 2, S209); and providing an indication of a critical state of charge condition if said counter exceeds said counter limit (Figure 2, elements S210 and S217).

As to Claim 8, which is dependent upon claim 7, Koo further discloses wherein the predefined extreme range of state of charge corresponds to high state of charge (Figure 4, Very high soc).

As to Claim 9, which is dependent upon claim 7, Koo further discloses wherein the predefined extreme range of state of charge corresponds to low state of charge Figure 4, Very low soc).

Allowable Subject Matter

1. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 4 recites, inter alia, a method for monitoring state of charge of an energy storage system wherein the predetermined duration is a function of the state of charge that generally decreases as the state of charge trends away from the predetermined region of state of charge and generally increases as the state of charge trends toward the predetermined region of state of charge.

1. Claims 5 and 6 are allowed.
2. The following is a statement of reasons for the indication of allowable subject matter: Claims 5 and 6 recite inter alia, a method for diagnosing a critical state of charge for an energy storage system by establishing a charge and discharge threshold as a function of state of charge within predetermined regions of extreme high and low state of charge, respectively, and if the energy storage system power violates appropriate one of the charge and discharge thresholds while the state of charge is within the one of the predetermined regions of high and low state of charge, monitoring the duration that the state of charge remains within the one of the predetermined regions of high and low state of charge.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Grant whose telephone number is 571-272-2727. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RG


Adolf Deneke Berhane
Primary Examiner